

5.—*Descriptions of Species of Parasitic Hymenoptera, chiefly in the Collection of the South African Museum, Cape Town. (Second Paper\*)*.—By. P. CAMERON.

[Species marked with an asterisk are not in the Collection of the South African Museum.]

## BRACONIDÆ.

### APANTELES.

#### APANTELES CAPENSIS, sp. nov.

Black; the sides of the three basal segments of the abdomen and the legs rufo-testaceous; the hinder coxæ, apex of hind tibiæ broadly and the hind tarsi, except the basal two joints at the base, black; the wings hyaline, with black nervures. ♀ and ♂.

Length 4 mm.

Cape Town. Several specimens.

First abdominal segment distinctly longer than broad; the second and third broader than long; the second, if anything, longer than the third; the basal two segments aciculated, a smooth line down the centre of both; the second with an oblique furrow on either side at the base, enclosing a triangular space; the other segments (third and following) are smooth and shining. Terebra short; the hypopygium cultriform. Metanotum opaque, coarsely aciculated; the mesonotum and scutellum smooth, shining, as are also the pleuræ; the breast covered with a pale pile. The hypopygium projects slightly beyond the dorsal surface of abdomen. Spurs of hind tibiæ extending shortly, but distinctly beyond the middle of metatarsus. Tegulæ fuscous-testaceous. First abscissa of cubitus straight, oblique.

Belongs to Marshall's Section 3, in André's Species, iv., 405.

\* First Paper, vol. v., 1906, pp. 17-182.

APANTELES BASIMACULA, Cam.,

Rec. Alban. Mus., i., pt. iii., 1904, p. 173.

May be known by the basal two segments of the abdomen being entirely whitish testaceous; *A. maculitarsis*, Cam., *l.c.*, p. 173, has the basal segment of the abdomen as broad as long, and all the segments are smooth and shining, as is also the metanotum.

## CHALCIDIDÆ.

### LEUCOSPINÆ.

#### LEUCOSPIS, Fabr.

LEUCOSPIS ORNATA, West., Germ. Zeits. für Ent., i. 252.

Schletterer, Berl. Entom. Zeits., xxxv., 1890, p. 219.

Cape Colony. Hex River.

The amount of the rufous and yellow colour probably varies. There is a ♂ in the Collection which has the head and thorax almost entirely black, the rufous colour being very scanty, and the yellow only represented by a line above the base of the pronotum and on the apex of the scutellum. The legs, too, are darker coloured.

I have in my Collection from the Cape another species which cannot well be confounded with any of the South African species.

#### \* LEUCOSPIS AFRICANA, sp. nov.

Black, but the under side of the antennal flagellum, a short line on the base of the pronotum in the centre uniting with the yellow transverse one, a triangular one at the sides at the end of the yellow line, its apex being united to the tegulæ, a line on the apex, the tegulæ, a broad line along the sides of the mesonotum, a triangular mark on the apex of the latter, the apex of the scutellum, the post-scutellum, the tubercles, a large triangular mark, almost covering the metapleuræ and the basal abdominal segment to beyond the middle are red; while a line across the middle of the pronotum, a curved one on the apex of the scutellum, a broader one on the sides of the metanotum, and one on the apices of the basal two abdominal segments are yellow. Legs red, the 4 anterior coxæ for the greater part, the fore femora on the basal half, the middle on the basal two-thirds above, the outer side of the hind femora, except above, where

they are red, and a yellow line above the teeth—the line broadest at the base. Wings fuscous-violaceous, the nervures black. ♀.

Length 6 mm.

Apex of ovipositor reaching close to the apex of the basal third of the second abdominal segment. Apex of pronotum with 2 transverse keels; the basal one is much stouter than the apical, and there is a short one in the middle at the yellow line. Middle of apex of scutellum with a raised border. Sides of post-scutellum stoutly dentate. Eyes slightly converging below; the hind ocelli separated from each other by a distinctly greater distance than they are from the eyes. Face and clypeus closely, strongly striated; the sides of the front are more irregularly striated; the vertex rugosely punctured, as is also the thorax; both are thickly covered with white pubescence; the metapleuræ more finely and closely punctured than the rest. Hind femora with 3 short stumpy basal teeth close to each other and 5 stout longish apical ones, all widely separated, the lower one more widely separated from the one above it than the others are from each other; it is also half the size. Basal joints of flagellum clearly longer than thick. Malar space as long as antennal scape.

The first abdominal segment is twice as long as it is wide at the apex; there is a keel down its centre; this keel has a transverse one at its base. Hind femora fully twice longer than thick; very shining, closely but not strongly punctured and covered sparsely with white pubescence. The first abdominal segment clearly separated from the second.

In the table of Schletterer's (Berl. Ent. Zeits., xxxv., 163) this species would come in near *L. tricarinata* and *elegans*. It is one of the smaller species.

## CHALCIDIDINÆ.

### *Chalcidini.*

#### CHALCIS, Lin., *sec.* Kirby.

The species enumerated below belong to *Chalcis* as limited by Kirby (Journ. Linn. Soc. Zool., xvii., 65) and by Kieffer (Berl. Ent. Zeits., xlix., 1904, 259), but not as limited by Ashmead (Class. of the Chalcid Flies, p. 249); that is to say they have the apex of the scutellum bilobate, while *Chalcis*, Ashm., has it rounded. The latter is identical with *Oncochalcis*, Cam., The Entomologist, 1904, 161. The South African *Chalcis pygni*, Cam. (Rec. Alban. Mus.,

i., p. 312) and *C. ? rotundata*, Cam. (Zeits. f. Hymen. ü. Dipt., 1905, p. 231) belong to *Chalcis*, Ashm. (*Oncochalcis*).

The determination of the Walkerian species is a work of difficulty and uncertainty from the fact that his descriptions refer only to coloration. The account given of the femoral teeth is very indefinite; in the description of *C. amenocles* from Sierra Leone (List of Chalcidites, i., p. 84) they are not even mentioned; in *C. varipes* (Notes on Chalcid., p. 48) they are stated to be "armed beneath with several small teeth"; in *C. polyctor* (Trans. Ent. Soc., 1862, p. 354) they are stated to be armed beneath "with several rather large teeth." According to Mr. W. K. Kirby (Journ. Linn. Soc., xvii., 68), *amenocles*, *varipes*, and *polyctor* (not the species described in The Entomologist, 1841, p. 218, from Sierra Leone, which is stated by Kirby, *l.c.*, to be a different species from the *polyctor* of 1862) are varieties of one species. *C. amenocles*, however, is said to have the hind coxæ black, as is also the case with *polyctor* of 1862; but *varipes* has the hind coxæ red, if the Walkerian description is to be relied upon. It is impossible to clear up the matter from the descriptions alone. I have a specimen from the Cape which agrees fairly well with Walker's description of *amenocles*. The red-legged species of *Chalcis* known to me from South Africa may be separated as follows:—

- |    |      |   |                         |
|----|------|---|-------------------------|
| 1  | (4)  | Hind femora red, with a large black mark on the outer side, their coxæ with red in the middle.                          |                         |
| 2  | (3)  | Abdomen red, except for a triangular black mark on the base .. .. .   | <i>natalensis.</i>      |
| 3  | (2)  | Abdomen entirely black .. .. .  | <i>melanospila.</i>     |
| 4  | (1)  | Hind femora red, not spotted with black; white at apex.   |                         |
| 5  | (6)  | Hind tibiæ entirely white .. .. .   | <i>dunbrodyensis.</i>   |
| 6  | (7)  | Hind tibiæ black, white at the apex .. .. .   | <i>melanogastra.</i>    |
| 7  | (6)  | Hind tibiæ black, white, and red.   |                         |
| 8  | (11) | Hind coxæ red for the greater part.   |                         |
| 9  | (10) | Metanotal area and metanotum smooth and shining, the areola pointed at the apex, coxæ broadly black at the apex .. .. . | <i>spilopus</i> , Cam.  |
| 10 | (9)  | Metanotum and areola opaque, alutaceous, the areola not sharp-pointed at the apex; the coxæ entirely red .. .. .        | <i>capensis.</i>        |
| 11 | (8)  | Hind coxæ black .. .. .   | <i>amenocles</i> , Wlk. |

The last 3 species may be known by the form of the metanotal area and of the reticulations on the metanotum. In *capensis* the areola extends from the base almost to the apex, is of uniform width, and bears one or two transverse keels, the lateral reticulations are

weak and irregular; in *spilopus* the areola is deep, almost twice longer than wide, the areæ bordering it are wider than long; in what I make out to be *amenocles* the areola is fully 3 times longer than wide and is wider at the base than at the apex; the basal lateral area is triangular, the apex below the base shorter than the length; the area below it is oblique, narrowest on the inner side; that above it is quadrangular, the one below triangular; the hind tibiæ are reddish, with a white band near the base and a wider one at the apex; the 4 front legs are black to near the apex of the femora, there they are white, as they are also at the base of the tibiæ; the rest of them are reddish.

\* *CHALCIS NATALENSIS*, sp. nov.

Black, the post-scutellum, the abdomen, except for a large pyriform mark on the base (the narrowed end of the base) extending from near the base of the segment to its apex and a mark in the centre of the apical two segments, bright red; the apex of all the femora, the tibiæ, tarsi, and the tegulæ bright yellow; the hind femora red, a large black oval mark touching the basal yellow one and extending shortly beyond the middle. Wings hyaline, the nervures black.

Length 6 mm. ♀.

Natal.

Apex of scutellum ending in two longish horny, pale-coloured lobes, which are broad at the base, narrowed towards the apex; above them are 2 dense tufts of long silvery pubescence. Metanotum widely reticulated; the areola is long, lanceolate at the base; the sides have a stout longish tooth close to the middle. The central part of the mesopleuræ is reticulated, the base and apex smooth; the former with a row of foveæ, the depressed apex with clearly separated keels. Propleuræ smooth for the greater part; near the centre is a stout oblique keel; the top is weakly, the bottom more strongly, widely striated. Metapleuræ closely rugosely reticulated. Basal segment of abdomen and the base and apex of the others smooth; the central part strongly punctured. The apical segment is roundly narrowed; it is depressed in the centre. On the hind femora are about a dozen teeth; the basal are indistinct and pressed together; the others are more widely separated; the penultimate is separated by a longish space from the last.

This is a larger and stouter species than *C. melanospila*; it may be known by the red abdomen, with the large triangular black mark

on the base, and by the short black basal and the large pale rufous tooth on the sides of the metanotum.

CHALCIS MELANOSPILA, sp. nov.

Black, the 4 anterior femora except for a line at the base above, the tibiæ and tarsi, the apex of the hind femora, the hind tibiæ except behind, where they are black, and the hind tarsi, yellow; the coxæ and trochanters black, the hind coxæ largely red above; their femora red, a large oval mark on the outer side of the latter in the middle and their black teeth; on the hind femora are 13 small, thick black teeth, the basal close together, the apical more widely separated. Wings clear hyaline, the nervures black. ♂.

Length 5 mm.

Cape Colony. Hex River.

Apex of scutellum broadly bilobate, the lobes obscure yellow. The sides of the metanotum on the basal half are roundly depressed, the base and apex forming almost teeth; the central area, except at the top, are strongly transversely striated. Head closely rugosely punctured, more coarsely above than below; in the centre of the face is a smooth and shining plate, which is obliquely narrowed above; the pubescence is long, dense, and white. Pro- and meso-thorax rugosely punctured, more or less reticulated. Basal segment of abdomen smooth, impunctate; the others are strongly punctured, the punctures widely separated; the apex is more finely, closely, and regularly punctured; they are somewhat thickly covered with long, silvery hair. The apex of the scutellum is thickly covered with long, silvery hair. The apex of the pronotum and the base of the mesopleuræ are stoutly striated. Flagellum of antennæ stout, opaque, densely covered with white down. The part below the scutellum is smooth, rufous.

CHALCIS DUMBRODYENSIS, sp. nov.

Black, the tegulæ, the apex of the fore femora broadly, of the middle more narrowly, the 4 anterior tibiæ except for a line in the middle behind, the apex of the hind femora, the hind tibiæ except for a dark rufous band at the base and all the tarsi, bright yellow, the hind femora red; wings hyaline, the nervures black. ♀.

Length 5-6 mm.

Cape Colony. Dunbrody.

Centre of face and clypeus smooth, bordered by distinctly separated punctures; the sides opaque, closely punctured. Vertex closely rugosely reticulated-punctured. Pro- and mesonotum closely rugosely punctured; the apex of clypeus bone-coloured; bilobate, the lobes rounded, the space between them straight, transverse; it is covered all round with long, white hair. Metanotum reticulated; the reticulations wide, square at the base; the central basal area is about two and a half times longer than wide; it is narrowed towards the base; the sides in the middle are broadly, roundly dilated. Propleuræ finely, closely striated above; the middle with a stout keel. Mesopleuræ smooth, except for the usual foveæ at the base. Metapleuræ except on the basal slope closely rugosely striated. Basal segments of the abdomen smooth; the others punctured and covered with white hair in the middle. Femoral teeth short, stout, the basal close to each other and regular; the apical six larger and more widely separated. Hind coxæ closely and somewhat strongly punctured.

CHALCIS MELANOASTRA, sp. nov.

Black, the apex of the fore femora and their tibiæ and tarsi pale yellow; the middle of the tibiæ broadly dark rufous; the hind femora red, their apex yellow, their teeth black; the tibiæ black, a yellow band near the base and a longer one on the apex; the tarsi yellowish. Antennal scape obscure yellowish in the middle. Wings hyaline, the nervures black. ♀.

Length 4 mm.

Cape Colony.

Apex of scutellum bilobate, the lobes short, broad, rounded. Face strongly punctured, without a smooth central plate. Clypeus smooth, with two longish foveæ in the centre. Front and vertex strongly rugosely punctured. The punctuation on the pronotum is closer and more rugose than it is on the mesonotum and scutellum, on which they are somewhat widely separated. Metanotum reticulated; the central area is about three times longer than wide, and is slightly narrowed towards the apex; the sides below are dilated but not greatly; the dilated part becomes wider gradually from the base and apex to the middle. Propleuræ in the middle stoutly irregularly striated, the apex above finely, closely striated. Mesopleuræ smooth and shining, the base and lower part at the base foveate. Metapleuræ closely rugosely

punctured. Abdomen smooth and shining, the apical segments aciculated. Hind femora regularly toothed below; the teeth small, black, and covered with white pubescence.

CHALCIS LEIGHI, sp. nov.

Black, densely covered with long, silvery pubescence; the tegulæ, the four anterior legs, except the coxæ and trochanters, the apex of the hind femora and the tibiæ and tarsi, yellow; the wings hyaline, the nervures black; the hind femora with about ten teeth, the basal short, stumpy, the apical one longer and sharper; those behind it widely separated, short, not very distinct; they are almost hid by silvery pubescence. ♀.

Length 7 mm.

Natal. Durban.

A stout, robust species. Antennal scape slender, shining, sparsely haired below; the flagellum stout, opaque, densely covered with short, white pubescence. Front laterally, and vertex closely rugosely punctured; the sides of the face finely rugose; the central plate smooth and shining, obliquely narrowed above, slightly, gradually narrowed below; the middle of clypeus smooth, the sides with a double row of irregular punctures. Base of mandibles rugose, the apex smooth, shining; there are three short, blunt teeth. Pro-mesonotum and scutellum closely rugosely punctured, more or less reticulated; the scutellum more strongly than the rest; the parapsidal furrows are indicated towards the apex. The two lobes of the scutellum are smooth, shining, placed somewhat low down, roundly narrowed towards the apex; they project over the metanotum, which is widely, irregularly reticulated; there is a row of areæ bordering the base; the areola is depressed, opaque, closely, finely punctured, narrowed at the base, not very clearly defined at the apex, more than twice longer than wide. Propleuræ irregularly aciculated-punctured; a stout curved keel in the middle. The foveæ at the base of the mesopleuræ are shallow, oval; they are on the centre only. Metapleuræ closely, rugosely reticulated. The basal segment of the abdomen is obscurely punctured, shining; the second to fifth are finely aciculated, punctured, with a transverse row of punctures on their apices; the sixth segment is strongly, closely, deeply punctured and covered with silvery pubescence.



GENUS ONCOCHALCIS, Cam.,  
The Entomologist, 1904, p. 64.

ONCOCHALCIS MICROLINEA, Walker,  
Trans. Ent. Soc., 1862, 372.

A specimen (♂) from Durban is probably this species, which was described under *Chalcis* from Natal. It is black; the tegulæ, apex of femora narrowly, the 4 anterior tibiæ except for along line behind, their tarsi, the base and apex of the posterior tibiæ behind and their tarsi, yellow. There are about thirteen short, stout, closely pressed teeth on the hind femora, of almost equal size. Apex of scutellum broadly rounded, margined. Metanotum closely, irregularly reticulated; its sides rounded, untoothed; the areola is not very clearly defined; it is about four times longer than wide, slightly wider at the base than at the apex, and it bears two irregular transverse keels in the middle. Abdomen short, smooth; the last segment strongly, closely punctured and covered with white pubescence. Face opaque, closely punctured; the centre broadly smooth and shining, the smooth space widened below the middle, obliquely narrowed at the apex; the clypeus smooth; a row of irregular punctures (four or five) on either side above. Propleuræ irregularly, stoutly striated in the middle; the base of the mesopleuræ smooth, with an irregular row of the usual foveæ; the apex is striated from shortly above the middle; base of the metapleuræ smooth, the rest of the area closely rugosely punctured.

Length 5 mm.

GENUS SPILOCHALCIS, Thoms.

SPILOCHALCIS CAPENSIS, sp. nov.

Vermillion-red; the flagellum of antennæ, the vertex broadly, the front more narrowly, the occiput, except at the edges, the outer half of the hind orbits, basal slope of pronotum, a line down its middle, a triangular large mark on the basal half of mesonotum prolonged as a broad line to the scutellum, the inner half of the lateral lobes, an irregular spot on the apex of the scutellum, the median segment and the pro- and mesopleuræ and the breasts, deep black. Legs coloured like the body, the fore coxæ, the middle except for a red spot below, the hinder except for an obscure mark on the apex below, all the trochanters, the base of the 4 anterior femora broadly, an irregular mark on the inner

side of the posterior, a smaller round mark near the middle on the outer side, a large semicircular one on the apex below at the edge, the base of the tibiæ and their apex more broadly, black. Wings hyaline, the nervures blackish. ♂.

Length 4·5 mm.

Cape Town.

Sides of front and face irregularly punctured; the frontal tubercle large, broad, rounded, and narrowed slightly above. Pronotum closely, the middle of mesonotum sparsely punctured, the lateral lobes smooth. Scutellum punctured like the mesonotum, furrowed down the middle; the apex in the middle closely striated. Metanotum reticulated, its centre stoutly longitudinally keeled. Propleuræ aciculated, sparsely punctured below. Apical half of mesopleuræ longitudinally striated, the base minutely, closely punctured. Metapleuræ irregularly reticulated. Abdominal petiole smooth, about twice longer than wide; the fourth segment has a large black mark, widely and largely incised in the middle, at the base; the fifth is black at the base. Teeth on hind femora black, short, closely packed, about 20 in number; the coxæ are as long as the femora. Flagellum stout, opaque, covered with a white down, the first and second joints equal in length.

### *Halticellini.*

#### GENUS STOMATOCERAS, Kirby.

##### \* STOMATOCERAS FUMIPENNIS, sp. nov.

Black, covered with a white pile; the basal half of the antennal scape below, the basal 4 joints of the flagellum, the knees, the anterior tibiæ, the apex of the 4 posterior tibiæ and the tarsi, rufous; wings dark smoky, tinged with violaceous, the basal third of the wings and a small cloud twice longer than wide, and rounded below at the stigma, hyaline; the costa and nervures deep black. ♀.

Length to end of ovipositor nearly 9 mm.

Cape Colony.

Face and clypeus closely rugosely punctured; the frontal depression, except at the top, closely transversely striated. Sides of clypeus broadly roundly dilated. Immediately below the antennæ is a stout projection, smooth and shining, roundly narrowed above, its apex rounded. Mandibles except at the apex, and labrum dark rufous; the former is depressed at the top. Pro- and mesothorax closely rugosely punctured; the apical half of mesopleuræ closely

longitudinally striated, smooth at the apex below. Scutellum longer than the width at the apex, broadly, but not deeply, furrowed down the middle; the apex ending in two stout teeth, which are longer on the outer than on the inner side; the incision separating them forms a triangle; they project largely over the median segment. The latter is widely areolated; there is a long central area extending from the base to the apex and roundly widened in the middle; in the centre are three irregular transverse keels. At the base of the segment is, on either side, a large irregular area, wider than long. It is narrowed on the outer side, where there are some irregular broken striæ; on the sides of the apex are two areae stoutly striated. Metapleuræ reticulated; the apical half above with an area, which is roundly incised in the middle at the apex and narrowed at the base. Abdomen shorter than the thorax; the hypopygium short, triangular. The apex of the hind femora below is keeled; behind this are two not very distinct, rounded curved projections. The third joint of the antennæ is about one-fourth longer than the fourth. Malar space as long as the eyes. The keel bordering the apex of the clypeus projects upwards on to the middle of the malar space. Tegulæ conchiform, densely covered with white pubescence.

*STOMATOCERAS TRIFASCIATUS*, sp. nov.

Black; the scape and basal 5 joints of flagellum red; the apex of the 4 front femora, the fore tibiæ in front, the hind femora in the middle broadly on the inner side and the base of the femora, dark rufous; wings hyaline; there is a brownish cloud at the stigma, longer than wide and narrowed at the apex; opposite it is a smaller cloud, and beyond, half-way between it and the middle, a longer curved one, narrowed in front. ♀.

Length to end of hypopygium 8 mm.

Cape Town.

Head rugosely punctured, the frontal depression closely, minutely punctured; the eyes, on the inner side, bordered by a keel. Apex of clypeus broadly roundly, but not deeply incised; malar space as long as the eyes; there is a smooth keel down the middle. Mandibles rufous, black at the apex, pro- and meso-thorax closely punctured; the pro- more strongly than the mesonotum, and the apex of the mesopleuræ still more strongly; the base of the latter stoutly striated, except below; the striæ are clearly separated. Metapleuræ coarsely, rugosely punctured, roundly projecting below. Smooth and thickly covered with white pubescence. Metanotum

reticulated closely in the centre; there is a large central area bordered at the base by two small ones, of which the inner is the larger and more regular; the sides are coarsely aciculated, opaque and densely covered with white pubescence. Ventral surface rufous, as are also the apical segments above. Hinder femora with the basal two-thirds keeled below; the keel with two curves. Apex of clypeus irregularly bilobate, the incision wider than deep, the lobes rounded.

STOMATOCERAS? SULCISCUTIS, sp. nov.

Black, densely covered with silvery pubescence, the 4 anterior tarsi, knees, and apices of tibiæ dark rufous; wings fuscous, the basal third almost hyaline. ♂.

Length 6.5 mm.

Cape Colony. Hex River.

Antennæ thick, eleven-jointed (but the three apical may be composed of two), covered with a close, white pile; the third joint greatly narrowed at the base, as long as the following two united. Head closely, strongly punctured, formed as in the preceding species; the labrum irregularly striated. Pro- and mesonotum and scutellum closely, strongly, almost uniformly punctured; the apical half of scutellum depressed in the middle. Scutellar teeth longer than their width at the base, bluntly pointed at the apex, centre of metanotum with an area about three times longer than wide in the middle; the part on either side irregularly areolated; the keels at the base curved, below straight, transverse. Pleuræ closely, rugosely punctured, pilose; the apex of metapleuræ shining, smooth, irregularly areolated like the metanotum. Abdomen sessile; the second segment smooth, shining, as long as the others united; the apical are closely, strongly punctured. There are two curves on the under side of the hind femora, the basal being the longer; they are closely, minutely serrate. Seen from above there is not much difference in the length of the basal four joints of the hind tarsi.

STOMATOCERAS? RUFIPES, sp. nov.

Black, the basal three joints of the antennæ, the end of the apical joint and the legs red; wings hyaline, a small cloud at the stigma, the cloud longer than the width at the base, and slightly narrowed towards the apex. ♀.

Length 5 mm.

Natal. Estcourt.

Inner orbits margined by a stout raised keel, the part between the keel and the eyes striated; the inner side rugosely punctured; the frontal depression smooth; the vertex and temples closely rugosely punctured. Malar space two-thirds of the length of the eyes. Pro- and mesonotum and scutellum closely punctured; the pronotum more closely, more opaque, and more densely pilose than the mesonotum; the scutellum has a wide, shallow, punctured furrow down the centre; its apex is margined, broadly rounded. Parapsidal furrows narrow, distinct. Metanotum opaque, except for a shining oblique area on either side near the base; it is narrowed on the inner, broad and transverse on the outer side; the rest is finely rugosely punctured; in the centre is an area extending from the base to the apex; its basal fourth becomes gradually widened; from the widened part it becomes narrowed towards the apex, the keels, however, not meeting there; the sides have a longish projection near the base. Basal segments of abdomen smooth, the apical punctured; the apical segments forming a short stout ovipositor; the ventral surface is rufous. Pro- and metapleuræ rugosely punctured, the latter more closely than the former; in the middle of the mesopleuræ is a striated belt, broad above, becoming gradually narrowed below; the base and apex are irregularly, largely and finely, punctured.

This is not a typical *Stomatoceras* as defined by Kirby (Journ. Linn. Soc., xvii., 62), for that has the apex of the scutellum "armed with two small raised teeth," while in the species I have described it is broadly rounded. It agrees fairly well otherwise with the generic description of *Stomatoceras*.

#### CRATOCENTRUS, gen. nov.

Abdomen with a long ovipositor—longer than the abdomen—the last segment conically projecting above, forming there a short sheath for the base of the ovipositor; the sheaths of the ovipositor moderately broad, punctured at the base. Antennæ stout, ten-jointed, densely pilose, originating close to the mouth. Apex of scutellum broadly rounded. Apex of metanotum with a broad rounded tooth above. Hind femora with ten teeth, the apical small, and close to each other, the basal larger and more widely separated.

The malar space is nearly as long as the eyes; the anterior ocellus is clear of the frontal depression; the hind ocelli are separated from each other by a distinctly greater distance than they are from the eyes; they are separated from the anterior by about the same distance as they are from the eyes. The last

antennal joint is one-half longer than the penultimate. Body and legs densely covered with silvery pubescence. Abdomen sessile; its apical half densely punctured. Mesonotum trilobate, the parapsidal furrows being distinct.

Comes near to *Rhynchochalcis*, which may be known by the untoothed femora, by the scutellum being bilobate, by the frontal depression enclosing the anterior ocellus, and by there being a keel between the antennæ. The ovipositor is more distinctly separated from the abdomen than usual with the *Chalcididinae*, being more as in the *Toryminæ*, that is to say the apical segments do not enter into its structure. I have included in the genus one species (*C. bicornutus*), in which the vertex is armed with 2 teeth or horns.

#### CRATOCENTRUS ARGENTEOPILUSUS, sp. nov.

Black, densely covered with silvery pubescence, which is much longer on the median segment than elsewhere, the apical half of the pronotum, the greater part of the mesonotum and scutellum dark red; the basal half of abdomen and the legs of a brighter red colour; the outer side of the hind femora darker coloured; the coxæ are densely, the rest of the legs are more sparsely pilose. Wings hyaline, infuscated along the margin, the nervures deep black. ♀.

Length 8 mm.; terebra 4 mm.

Cape Colony. Dunbrody.

Head rugosely reticulated-punctured, the sculpture almost hid by the dense pubescence. Frontal depression deep, narrower than the space between it and the eyes, closely, finely, transversely striated, stoutly keeled down the middle. Pro- and mesonotum and scutellum coarsely reticulated; the apical slope of the scutellum is oblique, stoutly longitudinally striated and with a distinctly raised margin which is broadly rounded. Median segment short, the centre steeply sloped, finely striated; the sides are more strongly striated. Pleuræ rugose, densely covered with longish, silvery pubescence; the lower basal half of the mesopleuræ striated, depressed.

#### \* CRATOCENTRUS RUFICORNIS, sp. nov.

Black; the base of pronotum narrowly, its apex broadly, scutellum, mesopleuræ narrowly below the tegulæ, base of abdomen above and more broadly below, rufous; legs rufous; the outer side of hind femora, except on the top, black. Wings hyaline, the apical half largely suffused with fuscous-violaceous, the nervures black. ♀

Length 7 mm. ; terebra 3 m.

Cape Colony. Dunbrody.

Head reticulated-punctured, covered with short, white pubescence. Frontal depression strongly, closely, transversely striated; there is a longitudinal fine keel down the lower half. Thorax closely, rugosely reticulated; the apex of pronotum and the scutellum much more strongly than the rest; the apical slope of the scutellum stoutly, longitudinally striated; its middle projects into a stout tooth. Metanotum longitudinally reticulated, the transverse keels weaker than the longitudinal ones; the lateral tooth is large, blunt. Pleuræ closely reticulated; the propleuræ more distinctly and less coarsely rugosely than the rest. Abdomen closely, distinctly punctured throughout; there is a broad, dense belt of fulvous pubescence on the third segment; the apical segments are more coarsely, closely punctured than the others; the apical spine is longish, gradually narrowed to a sharp point; the base of the ovipositor is punctured. At the base of the hind femora are two large, sharply-pointed teeth, widely separated; these are followed by at least nine short, blunt ones.

*CRATOCENTRUS BICORNUTUS*, sp. nov.

Black; the antennæ, except the apical three joints, the greater part of the head, thorax, legs, and the apices of the basal three abdominal segments, rufous; hind femora with about fifteen minute teeth, forming a serrated edge; the terminal tooth is much larger than the rest; the vertex behind the ocelli armed with two stout, sharp-pointed teeth; wings hyaline, the apex with a smoky cloud. ♂.

Length 9 mm. ; terebra 4 mm.

Southern Rhodesia. Sebakwe.

Antennæ ten-jointed, almost bare. Head rugosely punctured, sparsely covered with silvery pubescence; the frontal depression deep, closely striated; the sides keeled. Malar space two-thirds of the length of the eyes; there is an oblique keel near its top. Thorax closely rugosely punctured; the top of the basal slope of the pronotum has an irregular, rugose keel. Scutellum rugosely reticulated; its apex rounded, depressed, striated; the middle projecting into a triangular tooth. Metanotum short, the sides above projecting into stout triangular teeth. Mesopleural depression deep, closely striated at the bottom. Abdomen closely and strongly punctured, the apical segments more strongly than the basal; it is

densely covered with depressed, pale-golden pubescence. The apical segment is long, becomes gradually narrowed to a fine point, aciculated-rugose, smooth at the apex. The ovipositor is longer than the abdomen, rufous, black at the apex.

### PHASGANOPHORA, Westrv.

#### PHASGANOPHORA RUFICAUDIS, sp. nov.

Black, the six basal joints of flagellum, the legs, except the fore coxæ and the upper part of the hind femora, the base of the abdomen and the ovipositor rufous; the wings hyaline, their nervures black. ♀.

Length 7mm.

Dunbrody. Cape Colony.

The base and sides of the prothorax, the mesonotum round the scutellum; the sides of the latter are rufous. Face closely, strongly punctured. Frontal depression deep, closely striated, narrower than the space between it and the eyes. Hind ocelli separated from each other by double the distance they are from the eyes. Malar space as long as the eyes. Pronotum as long as the mesonotum; its basal slope rufous, closely transversely striated. Pro- and mesonotum and scutellum covered with raised points in transverse rows; those on the scutellum are broader and larger. Metanotum reticulated; its areola is large, wide on the apical two-thirds, narrowed at the base; the sides of the segment are rounded at the apex and thickly covered with long, grey hair; their base bears laterally an oblique, stout tooth. Propleuræ smooth above; there is a curved keel below the middle. Central part of mesopleuræ closely reticulated; the base of the metapleuræ smooth, the rest strongly reticulated. Hind femora with seven teeth; the basal close together, the rest widely separated; the apical broad, rounded. Abdomen smooth, except the sixth segment, which is strongly punctured. The ovipositor is nearly half the length of the abdomen. The first joint of the flagellum is not quite so long as the second. The whole body and legs thickly covered with glistening white hair.

#### EURYCENTRUS, gen. nov.

♂. Antennæ at least 12-jointed, the last joints not clearly separated, the third joint not much longer than the pedicle, covered



thickly with silvery tomentum ; they are situated half-way between the eyes and the clypeus. Eyes densely pilose ; the malar space is as long as them. Frontal depression gradually rounded, only margined at the eyes and, more distinctly, on the top above the fore ocellus. Scutellum large, clearly longer than wide, its apex broadly bidentate. Sides of metanotum stoutly toothed above, the teeth longer than the width at the base. Apical half of hind femora margined below, the margin slightly dilated at the base, bare. Hind tibiæ longer than the tarsi, not toothed at the apex ; the basal four joints of the tarsi become gradually slightly shorter ; the joints spinose. Abdomen short, the petiole very short, clearly broader than long ; its apical segment strongly punctured, the others smooth ; the ovipositor projecting, broad, three times longer than the width at the base. Wings smoky. Fore claws.

This genus, as regards the position of the antennæ, is intermediate between the *Chalcidini* and the *Haltichellini*, they being too low down for the former and not near enough to the mouth for the latter. The only genera with hairy eyes are *Trichochalcis*, *Microchalcis*, and *Allochalcis*, described by Kieffer (Berlin, Ent. Zeit., xliv., 246 and 247), but the species cannot fit into them. *Trichochalcis* and *Allochalcis* are from Madagascar. The present genus comes nearest to the latter.

EURYCENTRUS ERYTHROGASTER, sp. nov.

Black ; the abdomen, except the ovipositor, the four anterior legs except the coxæ and trochanters and the hind femora, red ; the wings fuscous violaceous, the nervures black. ♀.

Length to end of ovipositor 10·5 mm.

Cape Colony.

Head rugosely punctured, the centre of the front closely transversely striated ; the temples and cheeks densely covered with longish silvery pubescence. Face below bordered by a smooth, shining keel, with rounded edges ; the apex of clypeus bordered by a similar keel, but not so strongly projecting ; the labrum large, with three stout transverse keels. Temples keeled on the outer edge. Malar space with two fine keels down the middle ; they are united below and, on the outer side, above are bordered by a row of three foveæ, outside of which is another foveated band, extending to the bottom. Pro- and meso-thorax closely, rugosely punctured, more or less reticulated. The reticulatous punctures are strong on the pronotum, stronger on the scutellum, and weaker on the base of the

mesonotum. On the centre of the metanotum are two areæ extending from the base to the apex; these are bordered by an area which is dilated in the middle on the outer side; at the sides at the base is a long curved area, widest below, with two stout keels opposite the spines, the base bearing also stout keels.

## EUCHARINÆ.

### STIBULASPIS, gen. nov.

Scutellum large, roundly narrowed behind, ending in two longish teeth about 3 or 4 times longer than wide; strongly longitudinally striated throughout. Metanotum with a steep slope, the sides broadly rounded, not tuberculate. Antennæ twelve-jointed, the fourth to ninth joints stoutly produced above, the projections longer than thick, gradually narrowed to a sharp point, the apical roundly narrowed at the apex, closely united to the penultimate, which is broader than long and shorter than the preceding; they are placed well upon the face, above the lower edge of the eyes. Malar space longer than the eyes. Clypeus bounded laterally by oblique furrows, but not from the face. Temples very short. Except on the metanotum the whole thorax is strongly striated. Abdominal petiole stout, twice longer than wide. Wings not extending much beyond the apex of the abdomen; the nervures as in *Stibula*. Legs slender, the femora narrowed towards the apex; metatarsus as long as the following three joints united. Claws curved, simple. Ovipositor slender. Mandibles curved, bidentate, the apical tooth long, curved, sharp-pointed, the sub-apical shorter and blunter.

The affinities of this genus are with *Stibula*, which may be known from it by the antennæ in both sexes being simple, neither serrate in the ♀ nor flabellate in the ♂; and both have a distinct hump-like elevation above the metapleuræ. In *Stibula*, too, the thorax is strongly punctured; in *Stibulaspis* it is as strongly striated. The form of the scutellum is the same in both, except that in *Stibula* the apical teeth are curved, not straight as in the present genus. In the ♂ of *Stibulaspis* the abdominal petiole is longer, much longer than in the ♀; the middle joints of the antennæ, instead of being stoutly serrate, are stoutly flabellate.

The history of the *Eucharinæ* is interesting. So far as it is known the species are parasites on ants. Cf. Cameron, Manchr. Memoirs, vol. 34, 1890-91, p. 5, where it is stated that *Chalcura bedeli*,

Cam., lives parasitically in the nests of *Myrmecocystus viaticus* in Algeria.

STIBULASPIS FORTISTRIATA, sp. nov.

Blue with brassy and dark purple tints; the apex of femora, tibiæ, and tarsi pale testaceous, the lower half of the abdomen rufo-fulvous; antennæ black; the wings clear hyaline, the nervures pale. ♀.

Length 5 mm.

Natal. Durban.

Head from the ocelli to the clypeus longitudinally, closely striated, the striæ becoming weaker below; the raised centre of the face transversely striated; the clypeus smooth and narrowed above, transversely striated below. Mandibles dark purple. The fourth to ninth joints of the antennæ are stoutly produced above; the serrations broad at the base, becoming gradually narrowed towards the apex. Malar space almost twice the length of the eyes; it is stoutly striated; the striæ are curved. Mesonotum stoutly, transversely striated; the striæ sharp, clearly separated. Scutellum similarly but longitudinally striated; the striæ somewhat stronger and more widely separated; they converge towards the apex; the two apical teeth are united at the base, stout, slightly diverging; about three times longer than thick, the apex rounded. Metanotum closely reticulated in the middle; the sides irregularly transversely striated. Pleuræ longitudinally striated, the striæ sharp, clearly separated; the upper part of the propleuræ closely reticulated. The dorsal part of the abdomen is dark blue to near the apex, which is rufo-fulvous.

STIBULASPIS ATROPURPUREA, sp. nov.

Head and thorax blackish purple, the abdomen black with a faint bluish tint; antennæ black; legs black, tinged with purple; the apex of femora, tibiæ, and tarsi testaceous; wings hyaline, the nervures pale fuscous. ♂.

Length 4 mm.

Natal. Estcourt.

Face opaque, alutaceous, bare, a broad depression or furrow in the centre; clypeus finely irregularly transversely striated; malar space irregularly, finely, obliquely striated; it is about one-half longer than the eyes. Sides of vertex and front finely longitudinally striated. Pro- and mesonotum transversely, regularly striated; the striæ moderately stout and clearly separated; the scutellum is more

strongly longitudinally striated, the striæ, too, being more widely separated; the apical spines are long, slender, not much thickened at the base, and about four times longer than they are thick at the base. Metanotum irregularly longitudinally reticulated. Pleuræ longitudinally striated, the striæ becoming stronger towards the apex. Abdominal petiole long, slender, cylindrical, about half the length of the rest of the abdomen. The apical eight joints of the antennæ bear long stout rami, of which the basal are slightly shorter than the others.

### EURYTOMINÆ.

#### EURYTOMA, Illig.

##### EURYTOMA NATALENSIS, sp. nov.

Black, the head and thorax densely covered with short, white pubescence; the abdomen smooth and shining; the four anterior legs, the apex of the hind femora and the hind tibiæ and tarsi rufo-ferruginous; wings hyaline. ♀.

Length 3 mm.

Natal. Durban.

Antennæ stout; the first joint of flagellum twice longer than wide, narrowed at the base, the others stouter, shorter, but still longer than wide, and bearing white microscopic pubescence and some stiff hairs. Malar space as long as the eyes, shining, closely reticulated-punctured, its outer margin stoutly keeled; its inner side less distinctly margined; the rest of the head strongly punctured and covered with stiff white hair; the punctuation is rugose, close. Ocelli in a curve; the hinder separated from each other by double the distance they are from the eyes. Vertex depressed above. The head is slightly wider than the thorax. Metanotum finely closely punctured, without keels and with an oblique slope; not furrowed or excavated in the middle. Forewings hardly ciliated; the posterior with longish ciliæ. Abdomen ending in a longish sharp point.

### ORMYRIDES.

#### ORMYRUS, West

A genus of small extent, recorded from the Palæarctic, Nearctic, and Neotropical Zoological Regions.

## ORMYRUS STRIATUS, sp. nov.

Blackish purple, shining, above covered with short pale pubescence; the base of tibiæ and the tarsi pale testaceous; wings hyaline, the nervures black; tegulæ fuscous. ♂.

Length 2 mm.

Cape Colony. Stellenbosch. "Bred from galls."

Antennæ black, the flagellum covered with a pale pubescence; its joints broader than long, the first narrowed at the base. Face depressed below the antennæ, a broad keel in the middle of the depression; the sides punctured. Occiput above finely, closely transversely striated. Pronotum weakly, the mesonotum more strongly, closely transversely striated; the scutellum more irregularly striated, its apex closely punctured. Metanotum with a broad furrow in the middle; the parts bordering its top raised, tuberculate. Propleuræ raised above in front, the centre closely finely striated; the mesopleuræ smooth and shining; the metapleuræ closely, irregularly obliquely striated. Abdomen closely, finely distinctly punctured; the basal segment is finely closely reticulated; it is largely tinted with blue, and is separated from the second by a deep furrow; the second is short, about two-thirds of the length of the third, which is a little shorter than the fourth; the latter is irregularly longitudinally striated; the penultimate is finely closely striated; the last is much narrower than the penultimate and is transverse at the apex.

## ADDITIONS AND CORRECTIONS.

The following correction is to be made in my paper in the Ann. S. Afric. Mus., v., 1906—

For *Acanthobracon* read

NEOTRIMORUS, Dalla Torre

= *Trichiobracon*, Cam., Journ. Straits Branch Roy. Asiatic Society, 1905, 104 = *Acanthobracon*, Szép. non Kriechb. = *Trimorus*, Kriechb. preoccupied.

## GONIOPRYMNUS MACULICEPS,

Ann. S. Afric. Mus., v., pt. 2, p. 126.

This genus is clearly related to *Moansa*, Tosq. I am, indeed, not sure but that it may be identical with it. So far as I can make out

from the description, *Gonioprymnus* differs in having the spiracles on the first abdominal segment placed at the apex of the basal third, not "in medio sitis"; the first joint of the flagellum is distinctly longer than the second; in *Moansa* it is shorter; in the latter the sixteenth to nineteenth joints of the flagellum are compressed and flattened and each of them bears one or two spines, which are slender, elongated; in *Gonioprymnus* it is only the nineteenth joint of the flagellum, *i.e.*, that before the terminal three—those which are turned off at an angle—which bears spines. The antennæ are twenty-two-jointed as in *Moansa*; the three terminal joints are hardly compressed and not thicker than the preceding; the apical two are almost equal in length; the basal is distinctly shorter.

The Malay species referred by Tosquinet to *Moansa* (Mém. Soc. Ent. de Belgique, 1903, pp. 57-67) are clearly not generic with the African *Moansa*; they have the median segment areolated as in the Malay genera *Epicorides*, &c.

#### The GENUS MACROGASTER, Brullé.

The genus *Macrogaster* was described by Brullé in the fourth vol. of the Hist. Nat. des Ins. Hyménoptères, p. 184, on an insect from the Cape of Good Hope, *M. rufipennis*, which was figured on Pl. 41, fig. 4. This genus has always been a puzzle to me. Neither the description nor the figure is good; *e.g.*, the joints of the tarsi are said to be "allongés et très courts," whatever that means. Mr. Frederick Smith described from Borneo a *Macrogaster* which was no Cryptid (Brullé placed *Macrogaster* at the head of the *Cryptides*) but a genuine Pimplid belonging to (according to my views) the genus *Epirhyssa*, Cresson, a genus which differs mainly from *Rhyssa* in the forewings having no areolet. The late Dr. Tosquinet describes (Mém. de la Soc. Ent. Belg., 1903, p. 258) *Macrogaster flavopictus*, Smith, from Borneo; which is, I have no doubt, an *Epirhyssa*. I am now inclined to believe that the genus which I described in the Annals of the South African Museum, v., p. 127, under the name of *Ctenotoma*, is very probably identical with *Macrogaster*. In the figure of *M. rufipennis* the transverse cubital nervure in the forewings is shown to be interstitial; the transverse median nervure in the hind wings is unbroken, the head is shown to be narrowed, not dilated behind the eyes, and it is a more slenderly built species than any of the species of *Ctenotoma* that I have described. Still, as

neither Brullé's descriptions nor figures are remarkable for extreme accuracy, as has been more than once pointed out, the chances are that an examination of Brullé's type in the Paris Museum will show that my suspicion of the identity of *Ctenotoma* and *Macrogaster* is well founded.

The species of *Macrogaster* I described (Manchr. Memoirs, vol. 43, 1898-99, pp. 193-201) from the Khasia Hills belong to a new genus or genera, but not to the *Hemigasterini*. So far the genus *Ctenotoma*, in the sense I use it, is an African one, containing at present four species, namely, *rufipennis*, Brullé, *fuscipennis*, Cam., *nigriceps*, Cam., and *ruficeps*, Cam.